

## REMARKS

Applicants appreciate the Examiner's thorough examination of the application and request reexamination and reconsideration of the application in view of the preceding amendments and the following remarks.

The Examiner indicates that claims 14-17 allowable. Applicants would like to thank the Examiner for the indication of allowable subject material.

The Examiner indicated in the Advisory Action dated March 27, 2004 that the claims of the subject application would distinguish the invention over the applied prior art if the claims were amended to recite "a molecular imprinted sensor that changes in resistance in response to interferents but not in response to the analyte." Applicants herein amend independent claims 1 and 9 to recite that the film of the molecular imprinted sensor does not swell when exposed to a concentration of analytes less than or equal to a concentration of cavities, as disclosed in the subject application at page 11, lines 14-20. The amendments herein are made only to expedite prosecution and are not made for reasons related to patentability since the amended language is clearly stated in the specification of the subject invention.

In the Office Action dated March 29, 2004, the Examiner rejected claims 1-4 and 9-11 under 35 U.S.C. §103(a) as allegedly being unpatentable over *Piletsky* in view of *McGeekin* and claims 7 and 8 over *Piletsky* in view of *McGeekin* and further in view of *Ambos*.

The subject invention relates to a resistive sensor which swells when exposed to an analyte and interferents and a molecular imprinted resistive sensor which swells when

exposed to interferents only. Since the molecular imprinted resistive sensor is imprinted with the analyte, it does not swell in the presence of the analyte. Rather, it swells only in the presence of the interferents. A circuit connected to the resistive sensor and the molecular imprinted resistive sensor subtracts the change in resistance of the molecular imprinted resistive sensor from the change in resistance of the resistive sensor to reduce the effect of the interference thereby determining the presence and concentration of the analyte. See claim 1 of the subject application, *infra*.

The Examiner stated in the Advisory Action dated March 29, 2004 that “Piletsky does not teach away [from McGeehin], since Piletsky teaches the direct comparison of the results of imprinted and non-imprinted sensors.”

This is not true. *Piletsky* teaches the formation of an imprinted polymer and states that the signals obtained with the imprinted polymers so formed were better than with non-imprinted sensors: “The signals obtained with the non imprinted membranes were 5-10 fold lower than those obtained with the imprinted ones (data not shown).” *Piletsky*, pg. 2138.

However, in suggesting that the performance of an imprinted sensor is 5-10 fold greater than a non-imprinted sensor, *Piletsky* clearly teaches that it is undesirable to use a non-imprinted sensor and thus teaches away from using a non-imprinted sensor. Thus one skilled in the art would not read *Piletsky* and have the motivation to combine it with a reference that teaches the use of non-imprinted sensors. Since *Piletsky* teaches away from the use of non-imprinted sensors, it is improper for the Examiner to combine *Piletsky* with a reference that teaches non-imprinted sensors such as *McGeehin* nor *Ambos*.

Accordingly, the Examiner's combination of these references is improper.

Even if the disclosures of *Piletsky* and *McGeehin* were combined, the claimed invention would not be obtained. *McGeehin* only discloses the use of two sensors to only enhance the response of a desired analyte. See *McGeehin* at p.3, line 57-p.4, line 7 and p. 5, lines 50-55. The combination of *Piletsky* and *McGeehin* would not provide a molecular recognition sensor system that includes a resistive sensor and a molecular imprinted resistive sensor to determine the presence and concentration of the analyte, as claimed by Applicant. *McGeehin* fails to teach or suggest that it is possible to determine the concentration of an analyte in the presence of an interferent by using two sensors and the combination of *Piletsky* and *McGeehin* does not overcome this deficiency.


Claim 1 of the subject invention as amended recites: "A molecular recognition sensor system comprising: a resistive sensor including a semiconductive polymer film which swells when exposed to an analyte and interferents; a molecular imprinted resistive sensor including a semiconductive polymer film imprinted with the analyte to produce cavities therein, in which the film thereby swells when exposed to interferents but not analytes when said analytes are at a concentration less than or about equal to a concentration of the cavities; and a circuit connected to the resistive sensor and the molecular imprinted resistive sensor for detecting a change in the resistance of the resistive sensor when exposed to the analyte and the interferents, the change in the resistance of the molecular imprinted resistive sensor when exposed to the analyte and interferents, and for subtracting the change in resistance of the molecular imprinted resistive sensor from the change in resistance of the resistive sensor to reduce the effect of any interferents on the

change in resistance of the resistive sensor thereby determining the presence and concentration of the analyte.” (Emphasis added.) As noted above, *Piletsky, McGeehin* and *Ambos*, either alone or in combination, do not teach or suggest a circuit connected to both a molecular imprinted and a non-imprinted resistive sensor to subtract the change in resistance of the molecular imprinted resistive sensor from the non-imprinted resistive sensor to reduce the effect of the interferents and to determine the presence of the concentration of the analyte as disclosed and claimed in the subject application.

Accordingly, the combination of references cited by the Examiner is improper. Even if the references are combined, however, the combination of references fails to disclose or suggest the claimed invention. Thus, claims 1-13 are patentable over the cited references.

If for any reason this Response is found to be incomplete, or if at any time it appears that a telephone conference with counsel would help advance prosecution, please telephone the undersigned or his associates, collect in Waltham, Massachusetts at (781) 890-5678.

Respectfully submitted,

  
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